



500 EIGHTH Ave, Suite 1203, New York, NY. 10018



## CCIP Bootcamp Service Provider\*

### (MPLS, BGP, QoS) Training

<b>Course Length:</b>	10 weeks (80 hours), Instructor-led
<b>Skill Development:</b>	Understand networking technologies in the service provider arena including IP routing, IP QoS, BGP, and MPLS
<b>Prerequisites:</b>	CCNP or equivalent experience
<b>Target Audience:</b>	Network engineers making trans
<b>Course Objective:</b>	Provide students with the knowledge, skills and practical experience to pass the CCNA exams
<b>Exams covered:</b>	Cisco CCIP exams (BSCI, QoS, BGP, MPLS; emphasis will be on materials of the latter three)
<b>Lab:</b>	One-year onsite and remote access (via web)

**Topics to be covered:** \* Emphasis will be on materials from QoS, BGP, MPLS since the prerequisite will be CCNP, which covers BSCI already

#### Configuring BGP on Cisco Routers (BGP)

- I. Configure, monitor and troubleshoot basic BGP to enable interdomain routing
- II. Use BGP policy controls to influence the route selection
- III. Use BGP attributes to influence the route selection
- IV. Implement the correct BGP configuration to connect the customer's network to the Internet
- V. Identify common BGP scaling issues and enable route reflection and confederations
- VI. use available BGP tools and features to optimize the scalability Of the BGP routing protocol

#### Quality of Service (QoS)

- I. Introduction to IP QoS
- II. The Building Blocks of IP QoS
- III. Introduction to Modular QoS CLI and Auto-QoS
- IV. Classification and MarkingModule
- V. Congestion Management & Avoidance
- VI. Traffic Policing and Shaping
- VII Link Efficiency Mechanisms
- VIII. Link Efficiency Mechanisms IX. QoS Best Practices

**Open Lab Hours:** Monday through Thurs, 10:00am to 9:30pm, Fri/Sat/Sun 9:30a to 5:30p

#### Implementing Cisco MPLS (MPLS)

- I. Describe basic MPLS frame-mode and cell-mode architectures and identify how it supports applications that are used to address the drawbacks in traditional IP routing
- II. Describe the Label Distribution Protocol (LDP) process by explaining label allocation, label distribution, label retention, label convergence and Penultimate Hop Popping (PHP) in both frame and cell modes
- III. Given a diagram of a typical MPLS network solution, identify the Cisco IOS command syntax required to successfully configure and monitor MPLS operations on frame, switched WAN and LC-ATM interfaces
- IV. Describe MPLS's peer-to-peer architecture and explain the routing and packet forwarding model in this architecture
- V. Given a diagram of a typical simple MPLS VPN solution, identify the Cisco IOS command syntax required
- VI. Given a diagram of a typical simple, hub-and-spoke, overlapping and central services MPLS VPN solution identify the Cisco IOS command syntax required

**Routing (BSCI)** See CCNP Bootcamp BSCI curriculum (student is assumed to be a CCNP or have equivalent experience)

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